ABSTRACT OF THE INVENTION

A method for converting output data from a computer tomography (CT) device to linear attenuation coefficient data includes a step of receiving output pixel data from a CT device for a pixel of a CT image. The value of the pixel data is compared to a predetermined range. If the value is within the predetermined range, a linear attenuation coefficient is calculated from the pixel data using a first conversion function corresponding to said predetermined range. If the value is outside the predetermined range, the linear attenuation coefficient is calculated from the pixel data using a second conversion function corresponding to a range outside said predetermined range. The calculated coefficient is stored in a memory as part of a linear attenuation coefficient map.